

FIG. 1

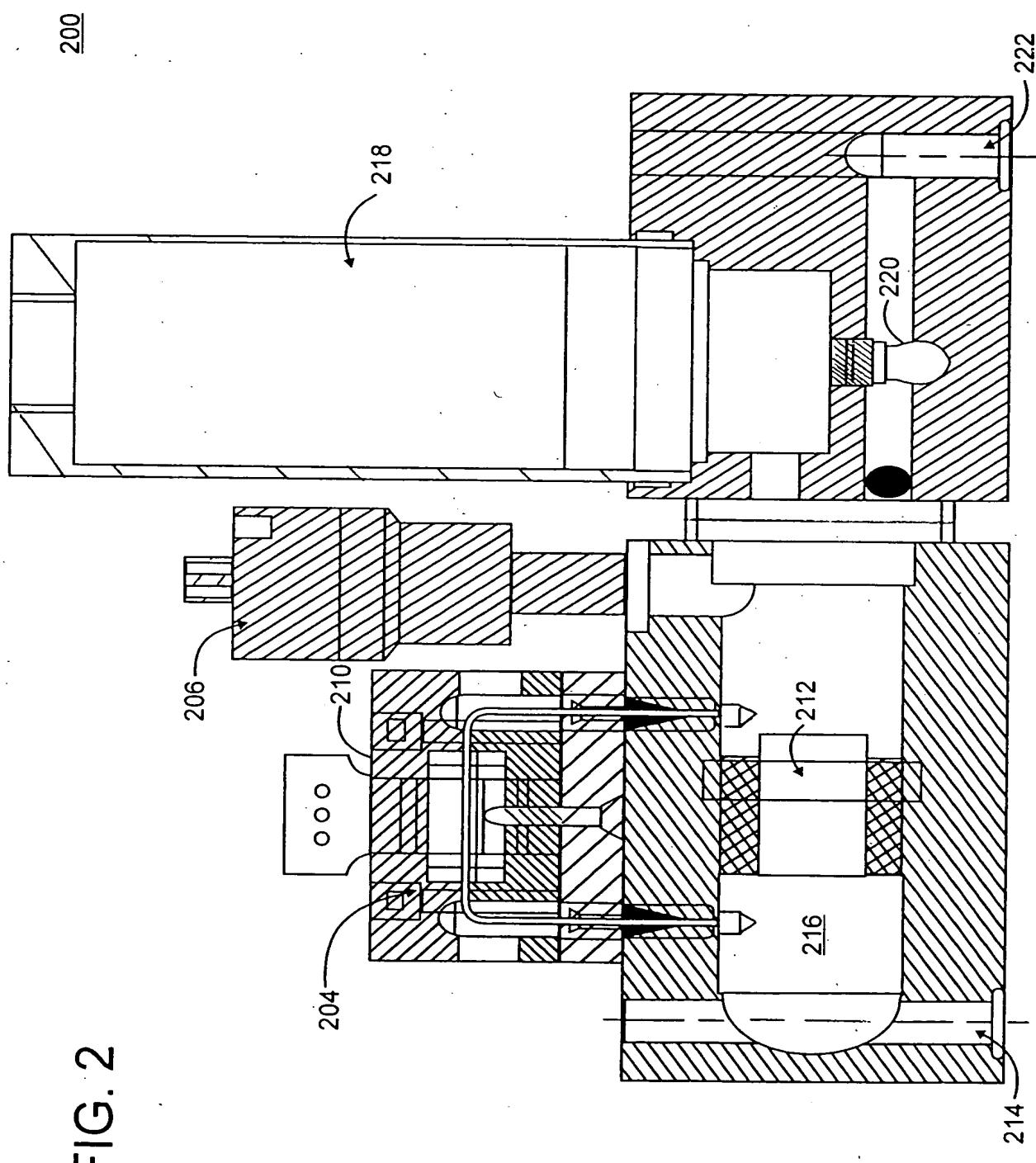


FIG. 2

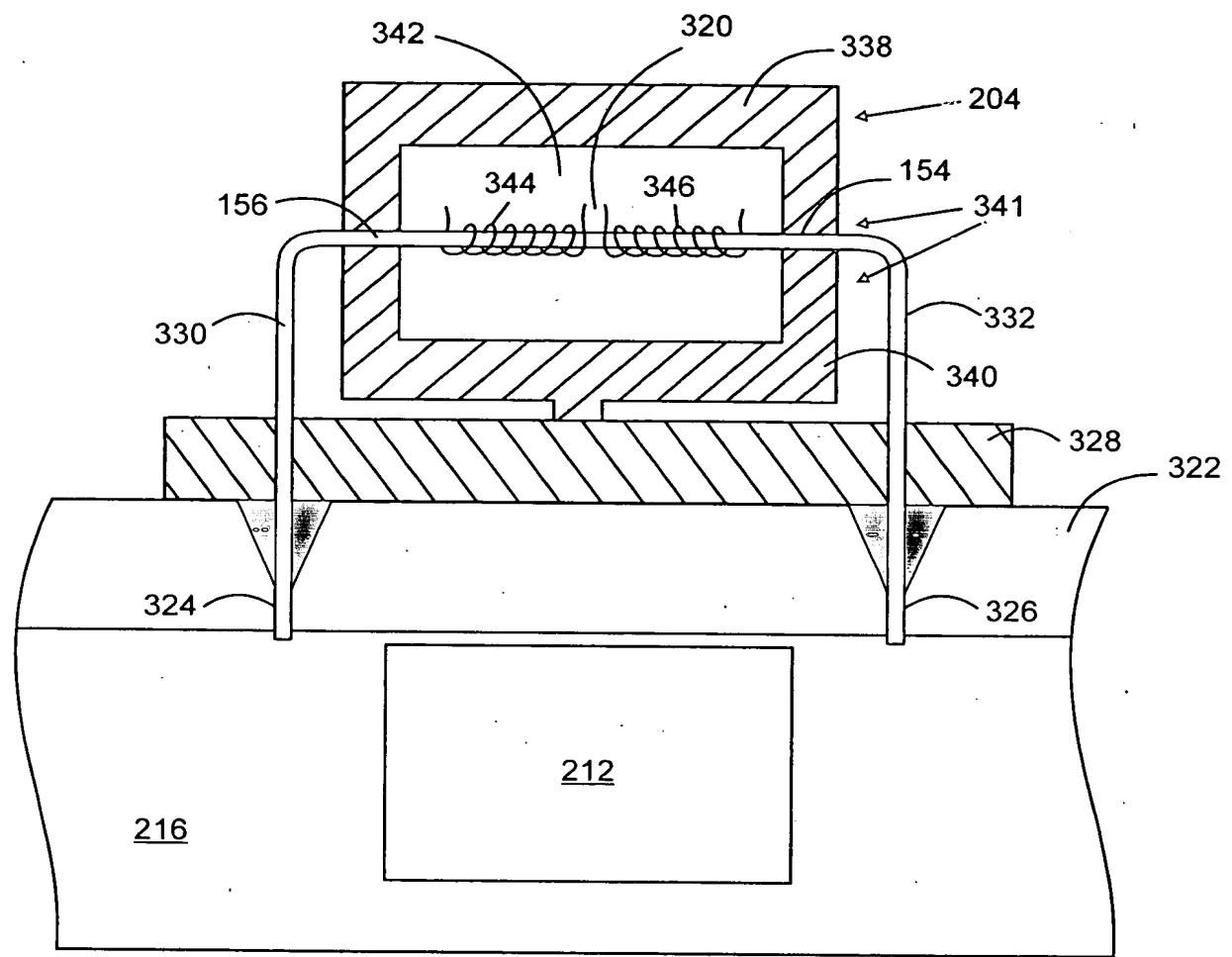


FIG. 3

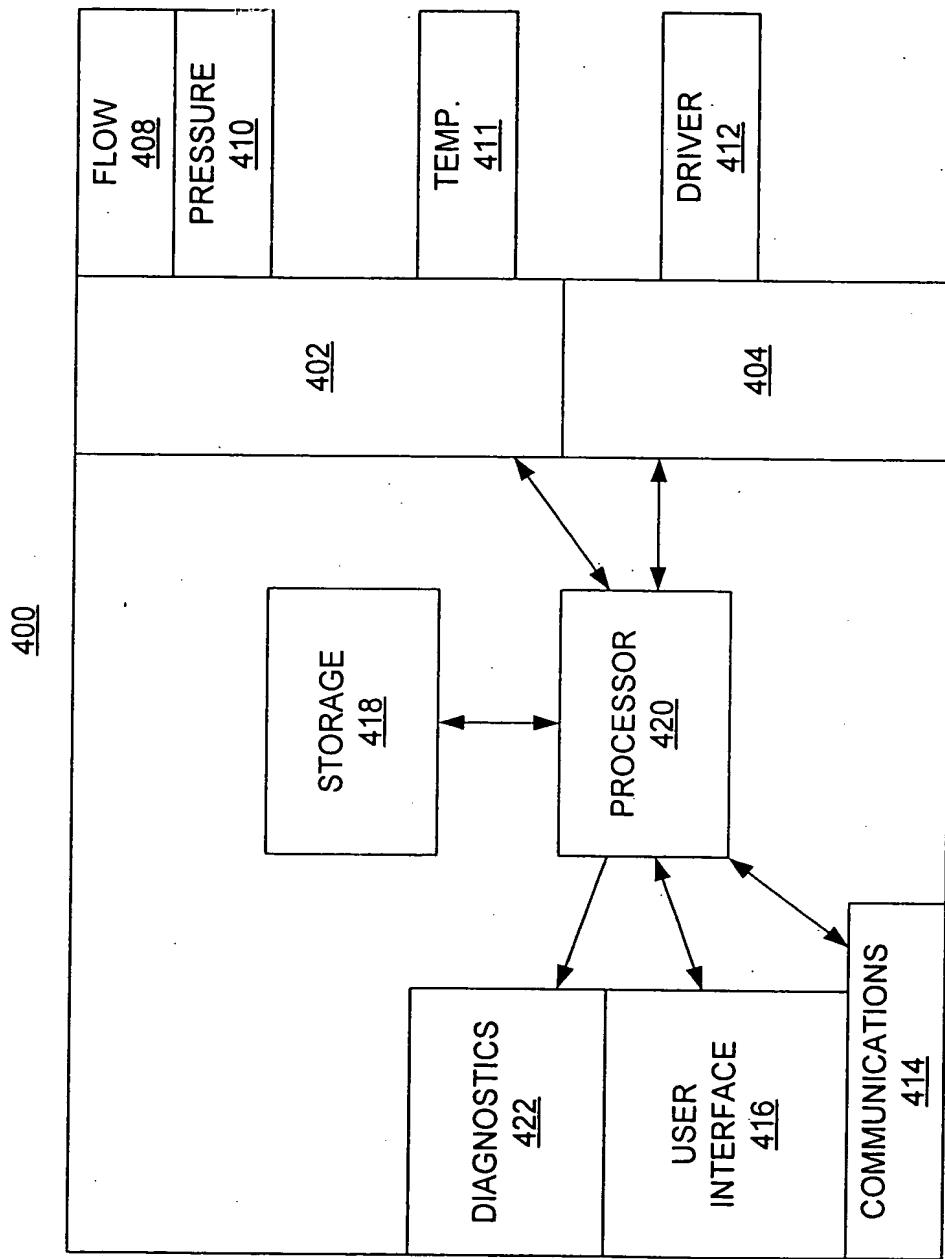


FIG. 4

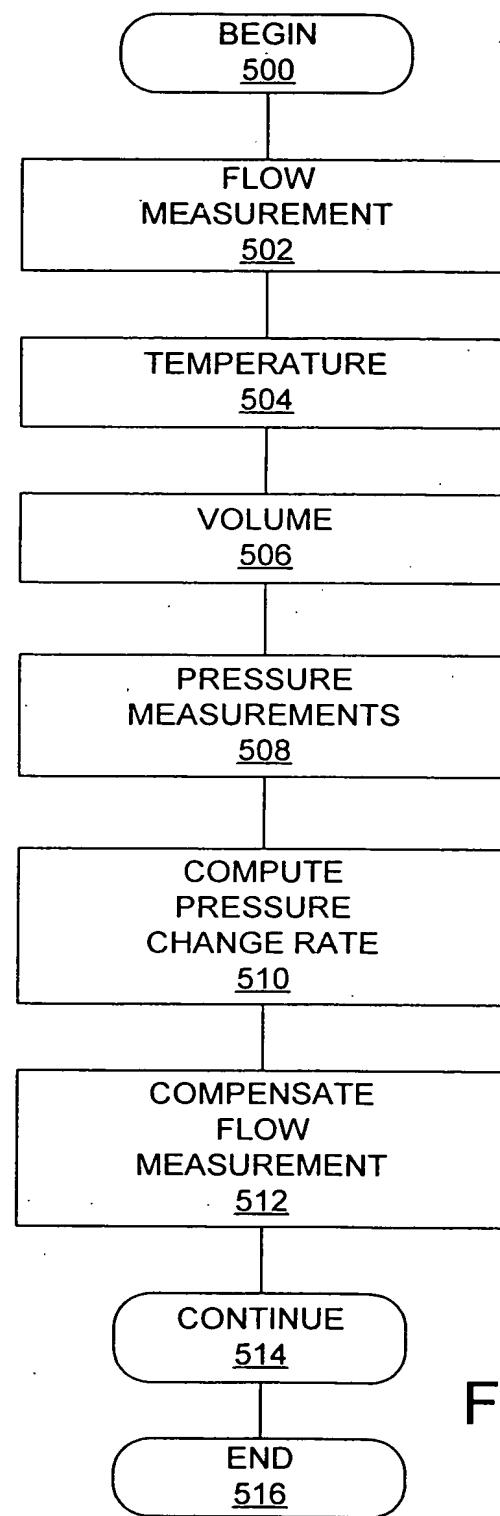


FIG. 5

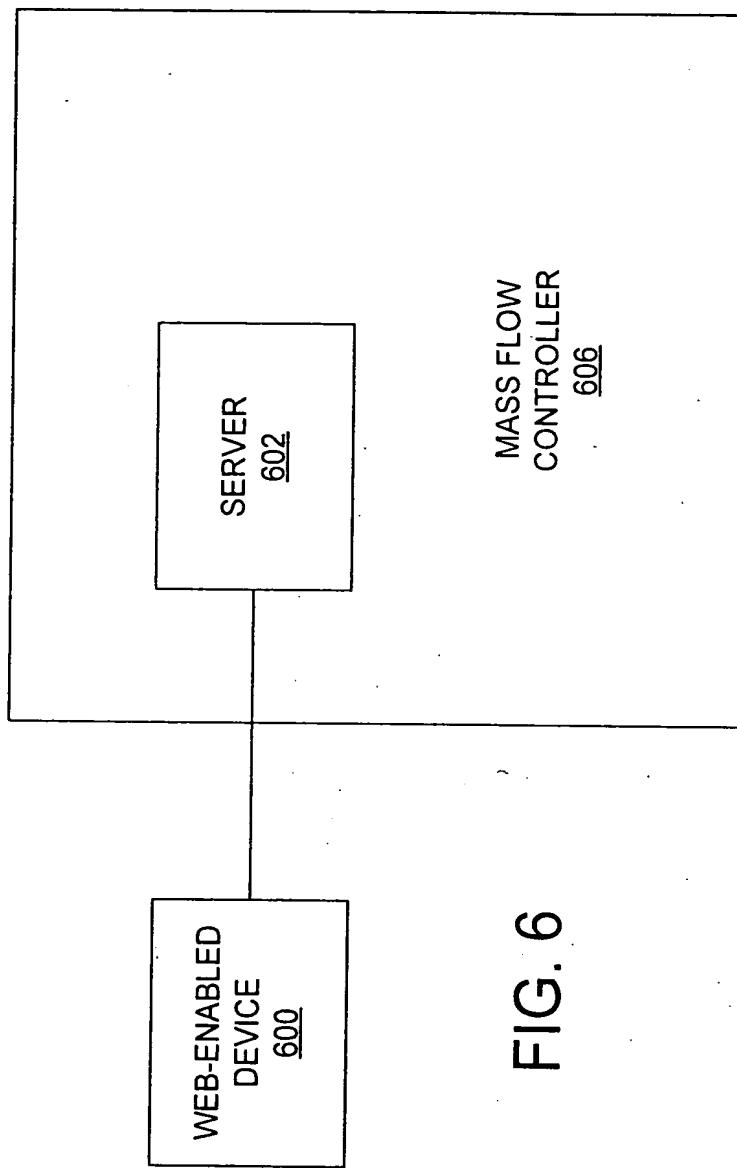


FIG. 6

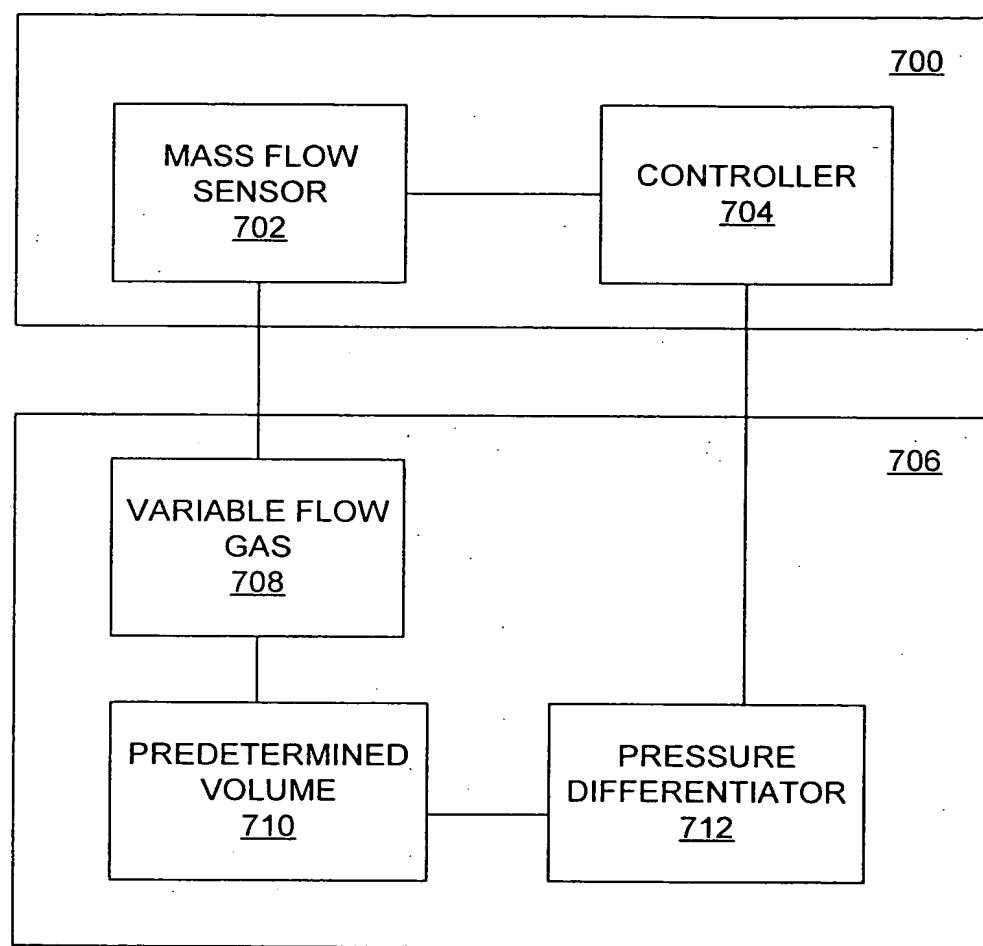


FIG. 7

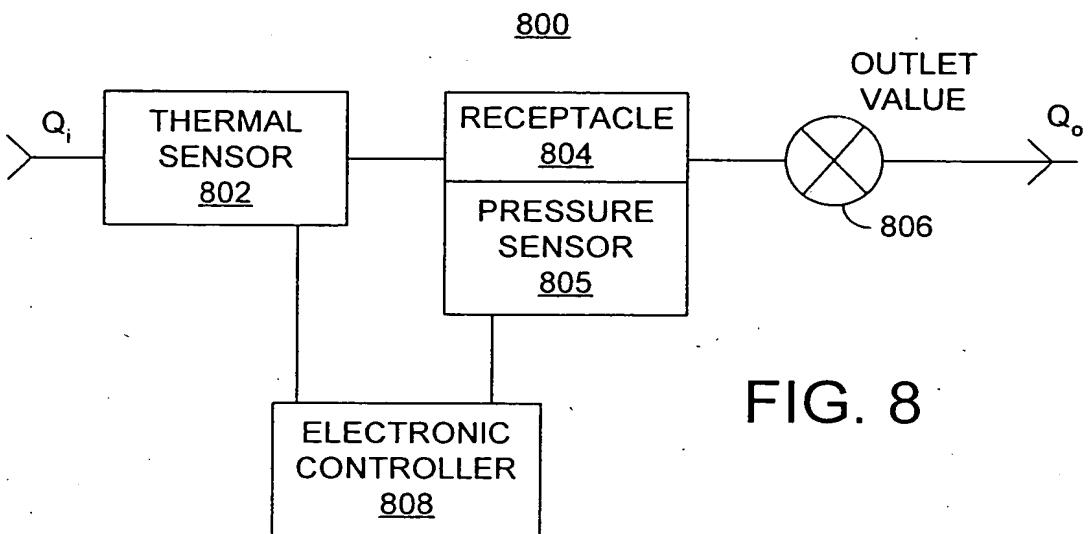


FIG. 8

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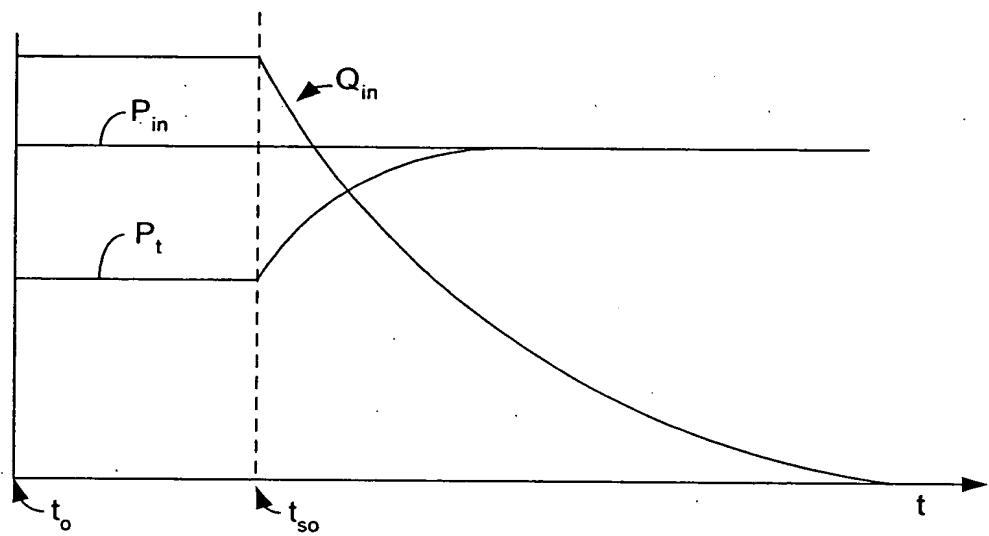


FIG. 9

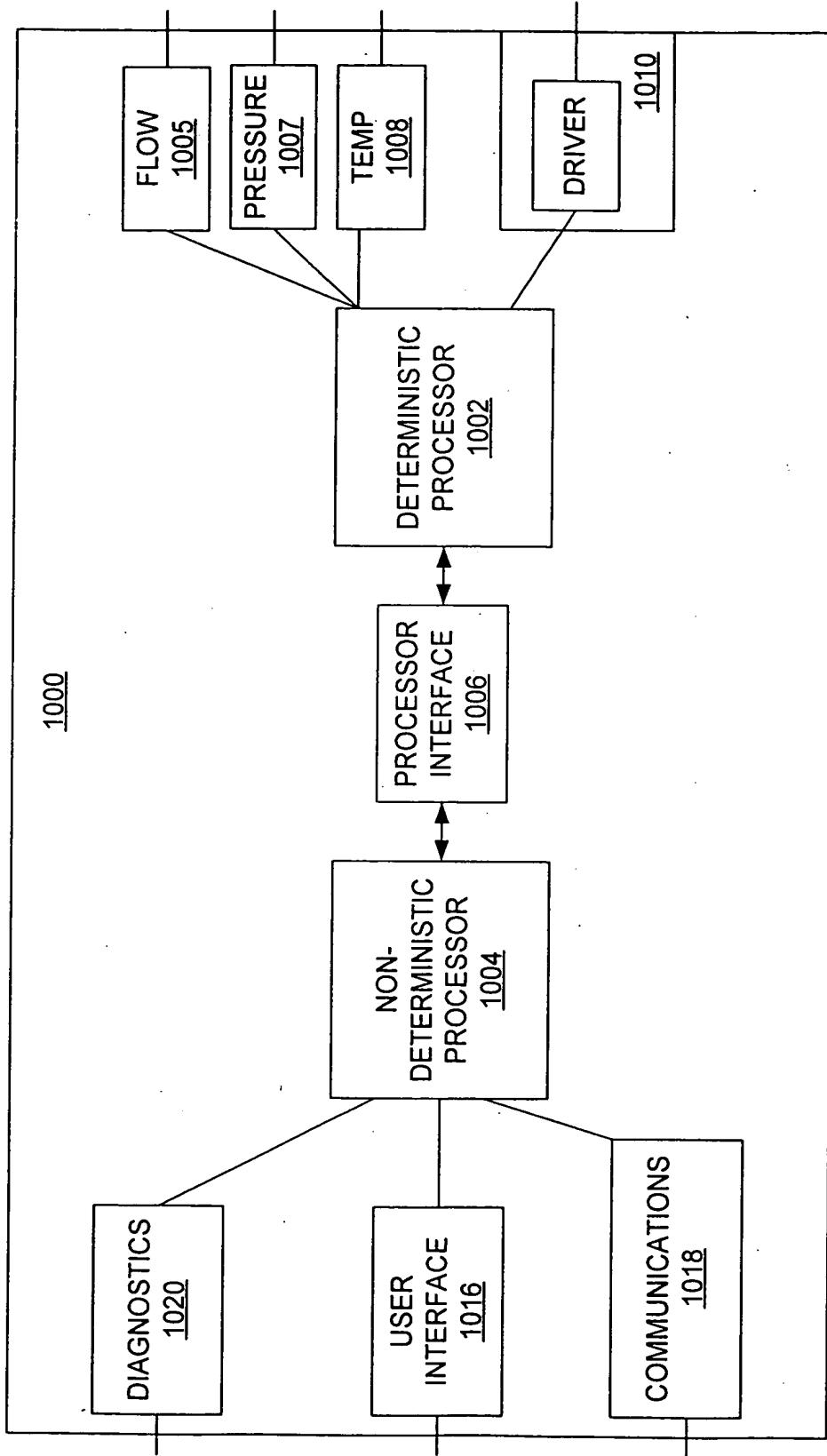


FIG. 10

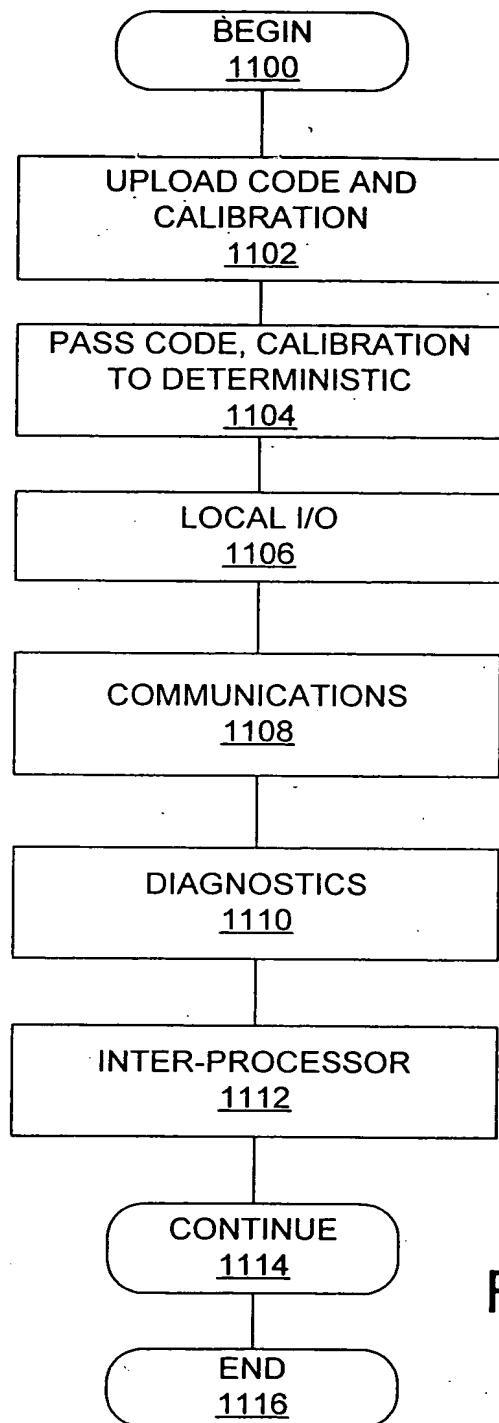


FIG. 11

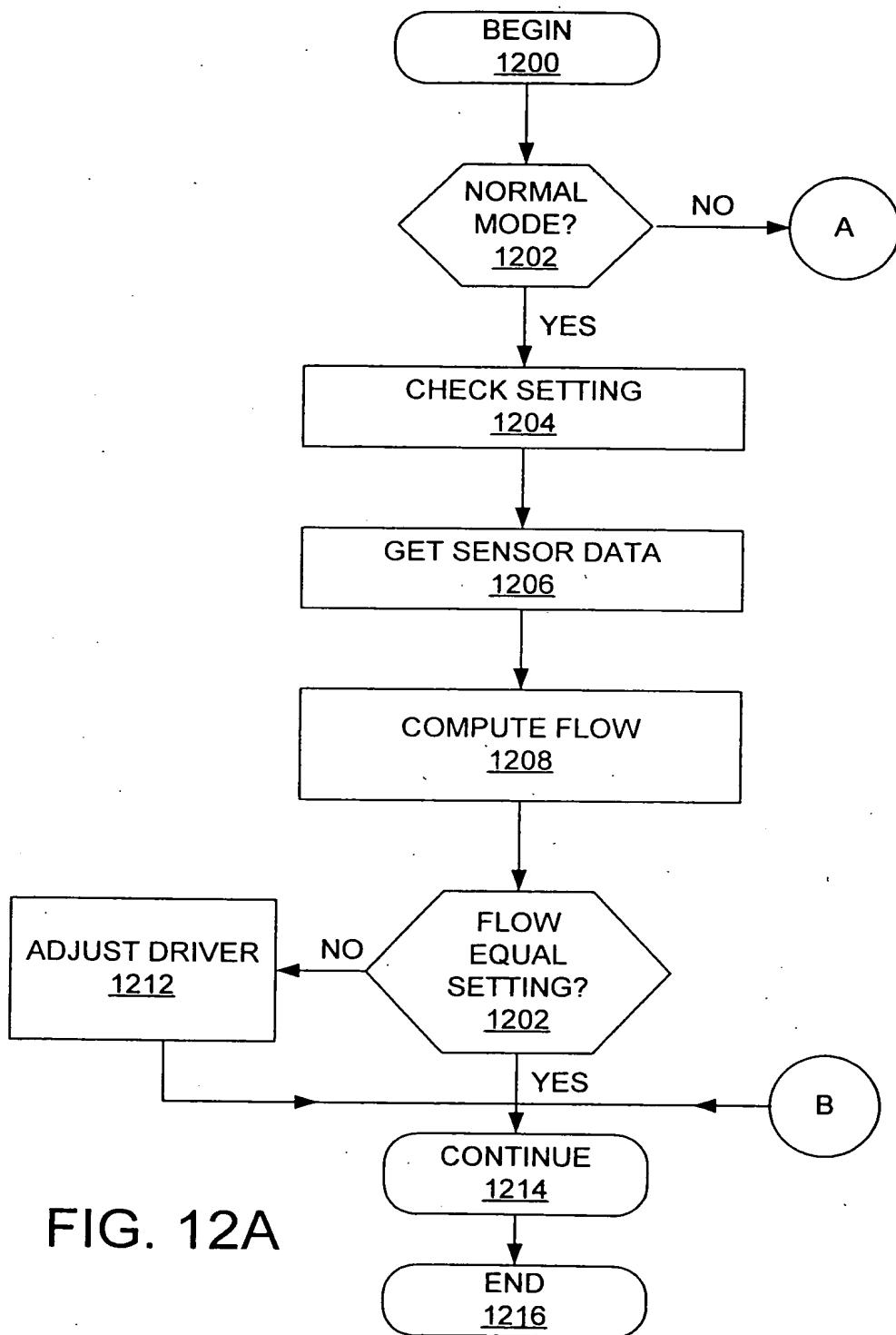


FIG. 12A

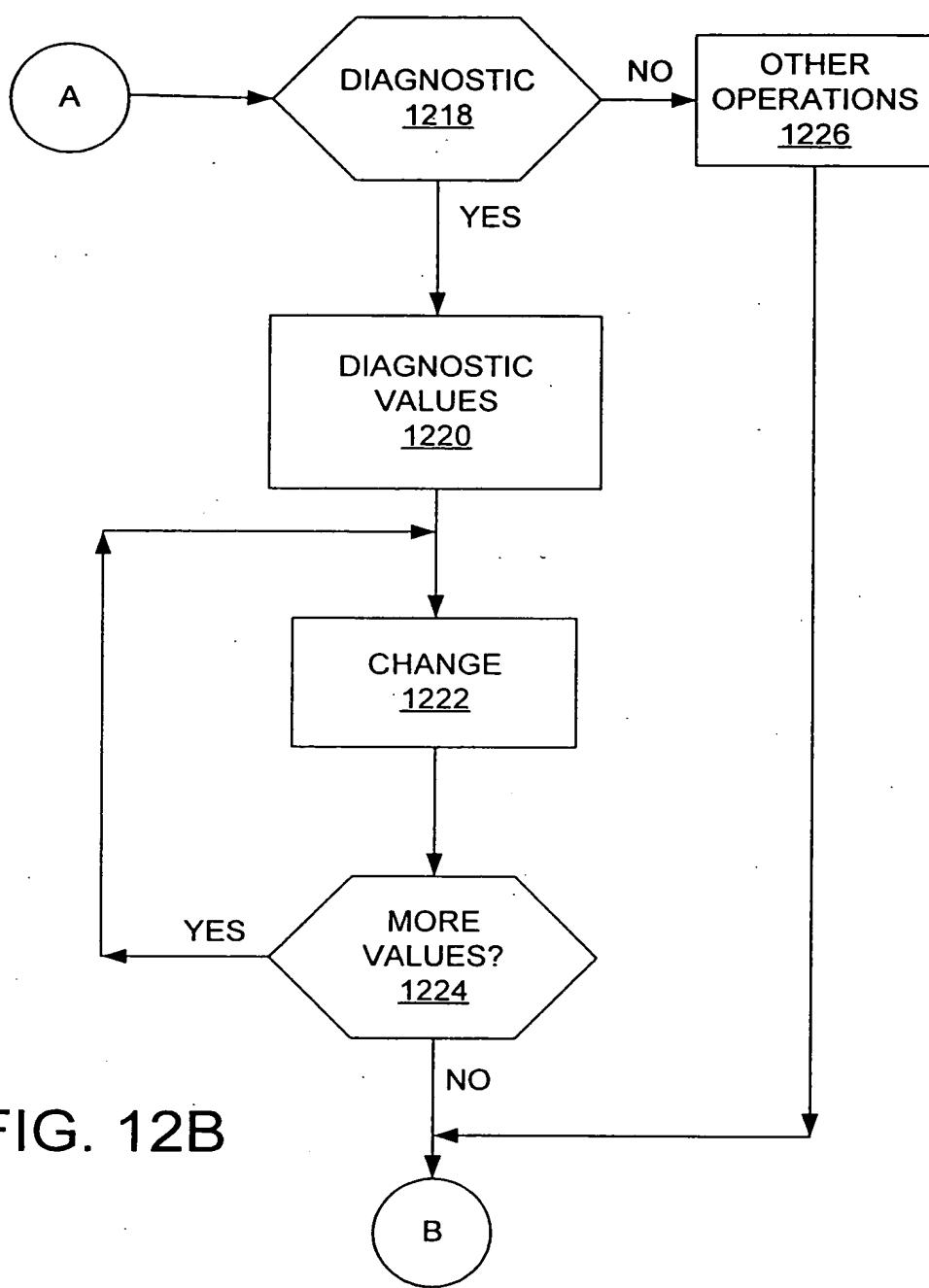
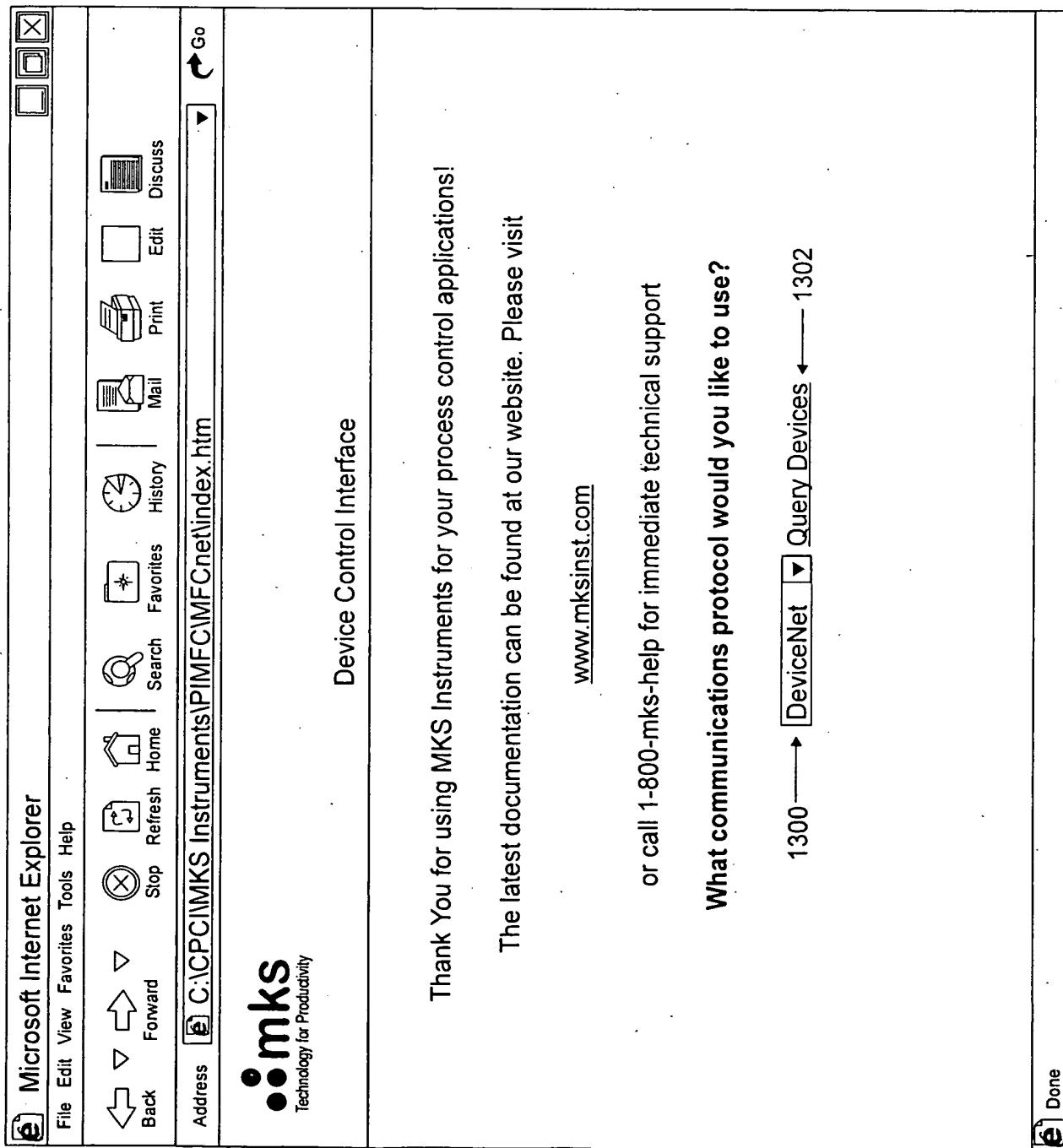


FIG. 12B

**FIG. 13A**



**mks**  
Technology for Productivity

Device Control Interface

1. 500 sccm MFC Collapse View

Model	3141	View Specs	Setup Device	S/N	SN495837
Range	50 sccm			Gas	N2 Calibration
Set Point	0.0	Set		Flow	0.0 sccm Plot
Mode	Controlling Flow	Valve Close Open			
MFG	MKS Instruments				

2. 2000 sccm MFC Collapse View

Model	3141	View Specs	Setup Device	S/N	SN445837
Range	50 sccm			Gas	N2 Calibration
Set Point	0.0	Set		Flow	0.0 sccm Plot
Mode	Controlling Flow	Valve Close Open			
MFG	MKS Instruments				

3. 500 sccm MFC Expand View

Set Point	0.0	Set		Flow	0.0 sccm Plot
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FIG. 13B

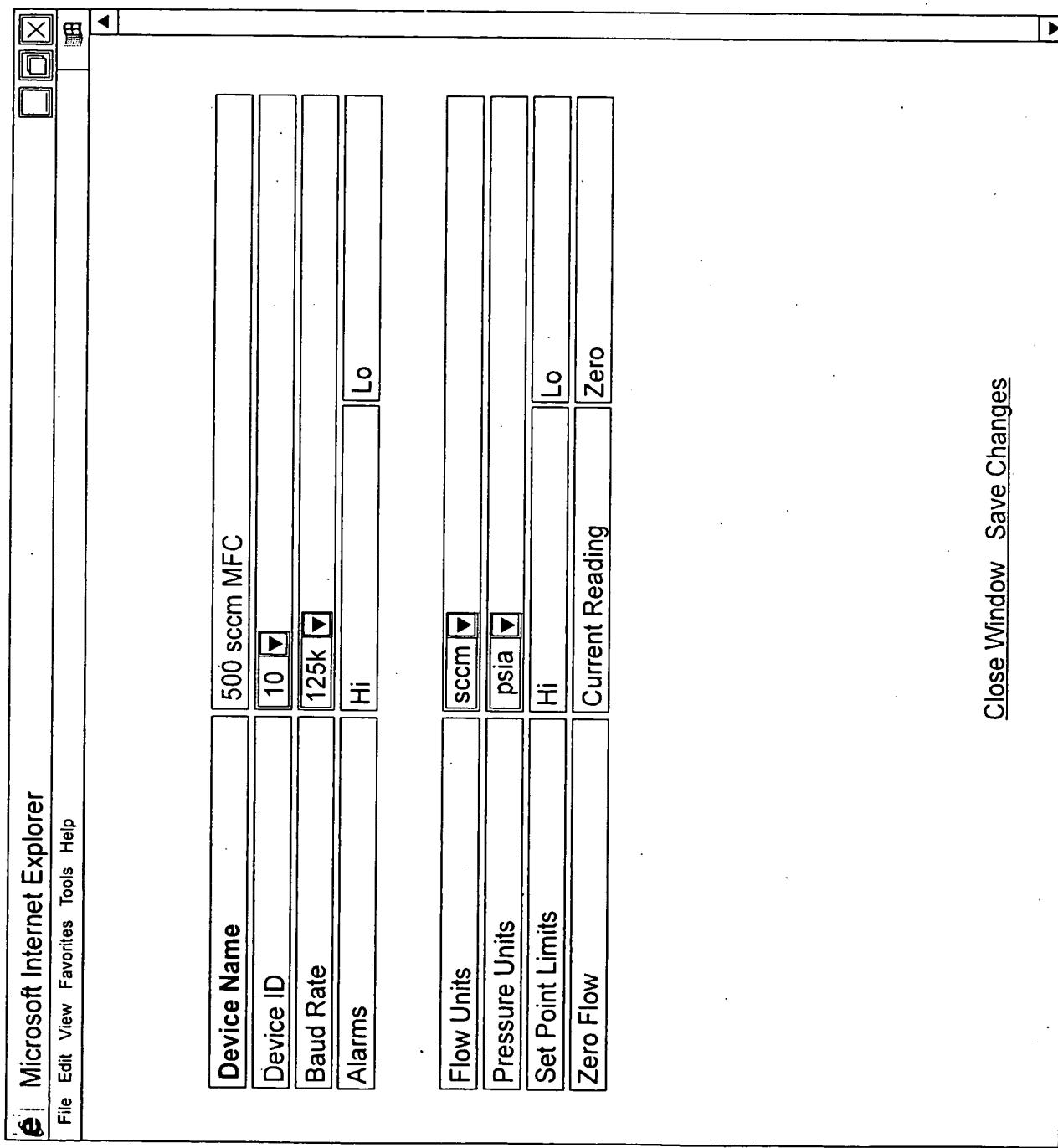
**Device Specifications**

<b>Model</b>	3141 Mass Flow Controller
<b>Full Scale Range</b>	500 sccm
<b>Max Inlet Pressure</b>	150 psia
<b>Control Range</b>	2% to 100% FS
<b>Accuracy</b>	1 % Reading 5 to 100% FS 0.5% 1 to 5% FS
<b>Repeatability</b>	0.2% Reading
<b>Resolution</b>	0.1% FS
<b>Warm Up Time</b>	10 min
<b>Max Response Time</b>	500 ms
<b>Max Pressure Sensitivity</b>	1 % Reading
<b>Communications</b>	DeviceNet
<b>Operating Pressure Differential</b>	10 to 40 psia

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FIG. 13C

FIG. 13D



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Calibration Gas: N2

	% Full Scale	Cal Point
1	0	0
2	5	0
3	10	0
4	15	0
5	20	0
6	25	0
7	30	0
8	35	0
9	40	0
10	45	0
11	50	0
12	55	0
13	60	0
14	65	0
15	70	0
16	75	0
17	80	0
18	85	0
19	90	0
20	100	0

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FIG. 13E